



**Federal Aviation
Administration**

Tower Flight Data Management (TFDM)

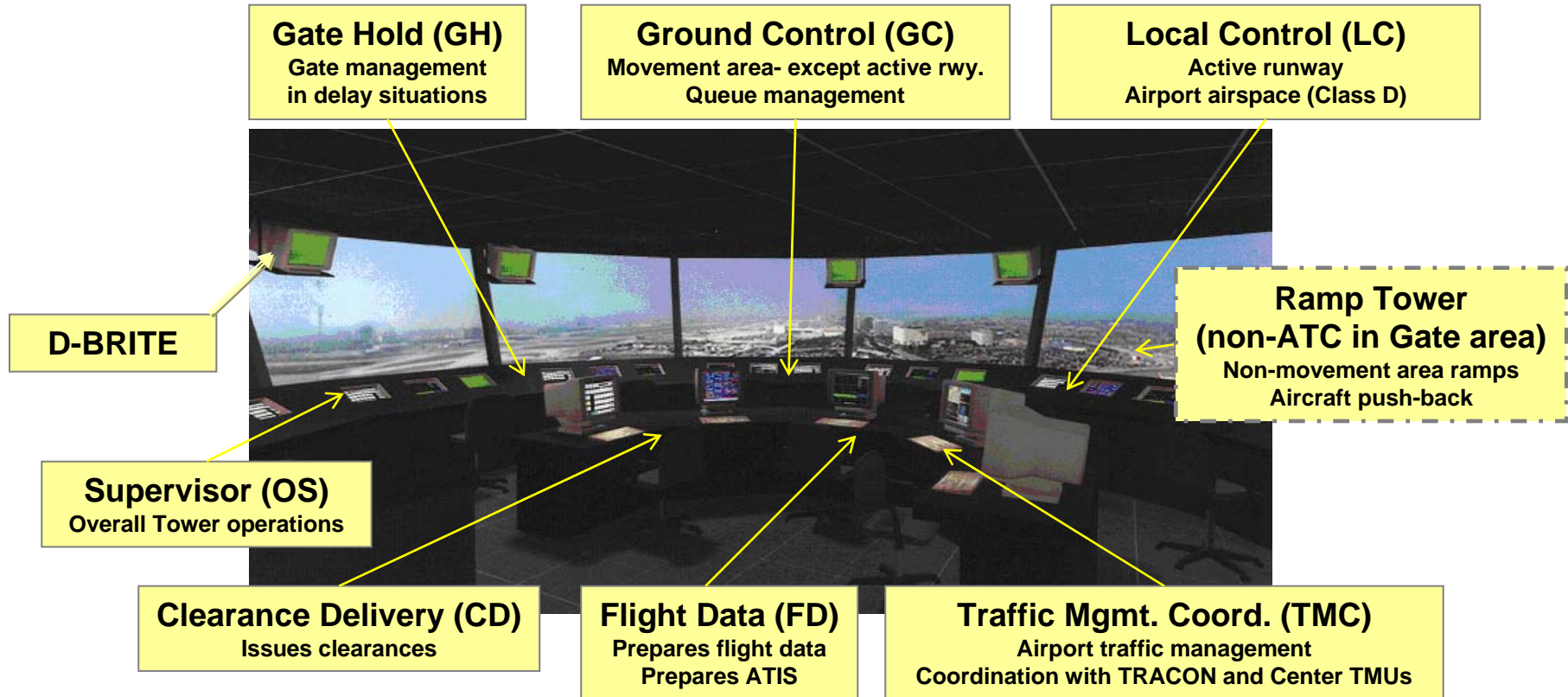
Presented to: Technical Interchange

By: Carmine Primeggia ATO-T (SE)

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Airport Traffic Control Tower (ATCT)

Positions and Equipment



ATCT "Infrastructure" Components

ARMT
ARTS/STARS
ASDE/AMASS
ASOS Monitor
ATIS
D-BRITE
AIM

DSP
FDIO
Flight Strip Bays
IDS-4
ITWS
LLWAS

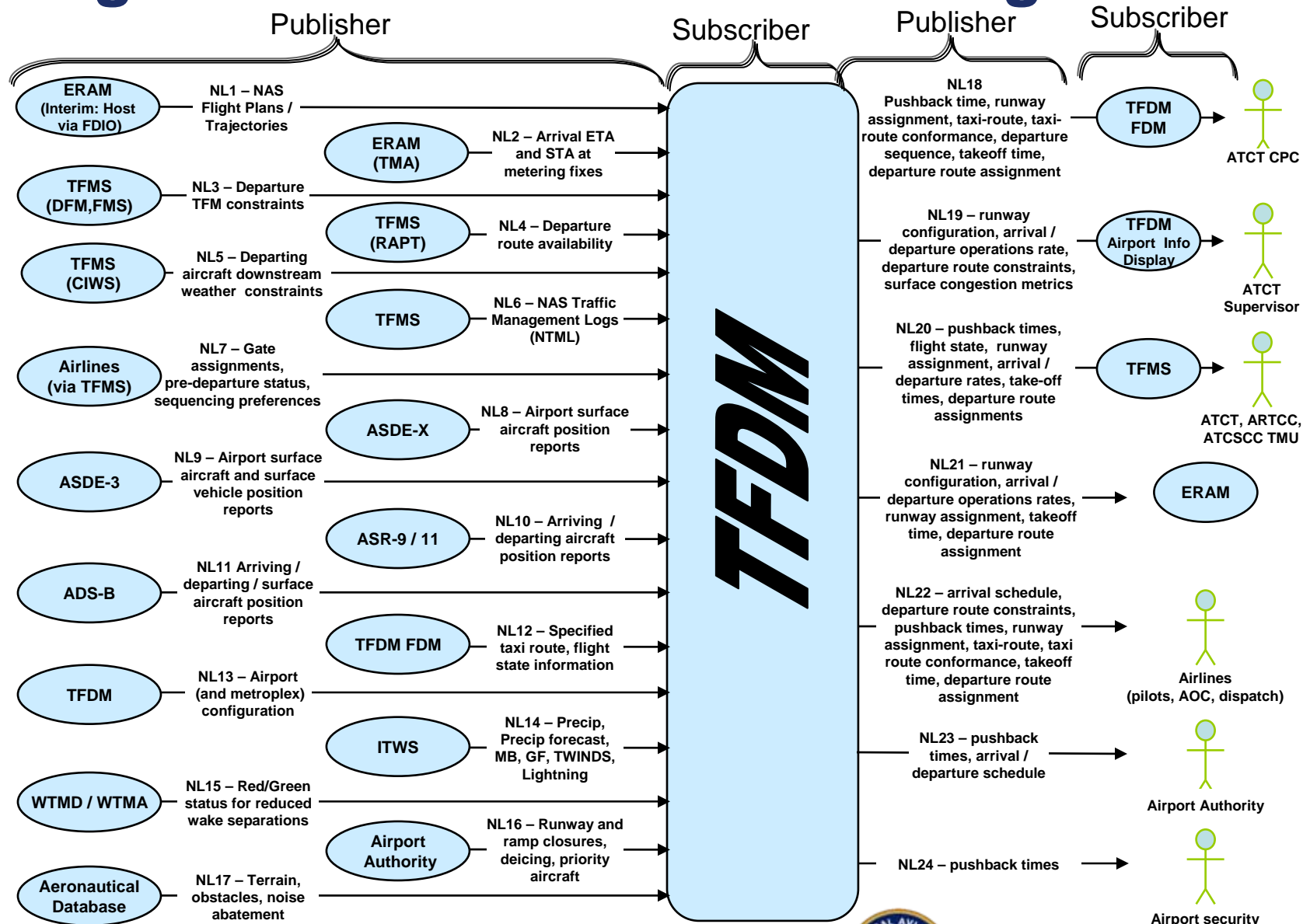
RAPT
RVR
TDLS
TDWR
WSP
ASDE-X

Description

- **Tower Flight Data Management (TFDM) is the integration of number of tower systems and subsystem into a common information management platform and it distributes the information on a common display platform TIDS**
- **The Tower Flight Data Manager TFDM is made-up of the following module components: Data manager (DM), Information manager (IM), Display manager (dM), Target manager (TM), Flight data management (FDM), System Safety manager (SSM), Surface manager (SM), Terminal SWIM (T-SWIM), Decision Support Tools (DST's): Arrival/departure management tool (A/DMT), Surface Trajectory Based Operation (STBO) and are key enablers for the Tower Information Display System (TIDS)**



High-Level Information Exchange View

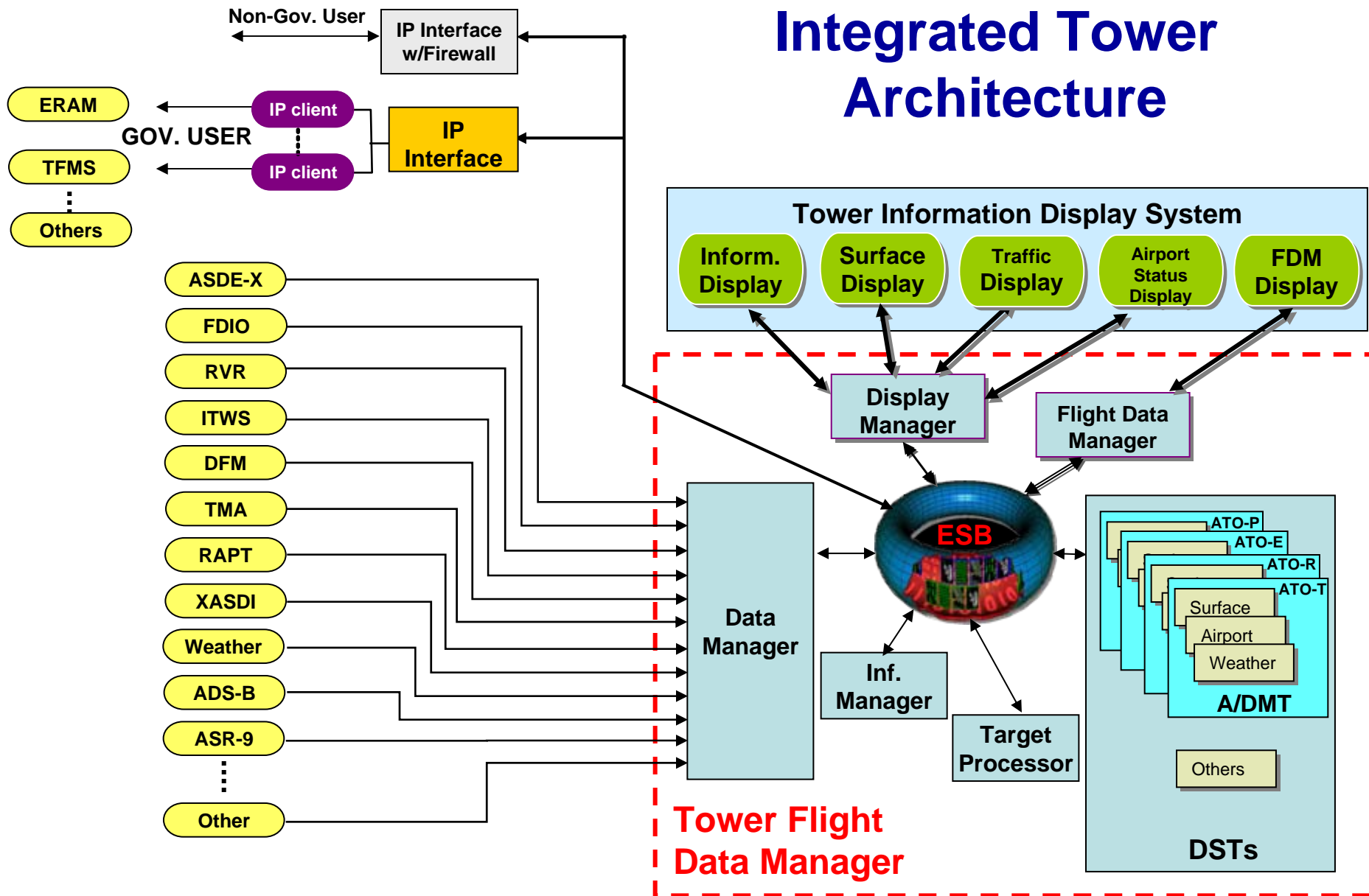


NL# = Needline #



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Integrated Tower Architecture



Example: Tower Information Display Suite

Information Display



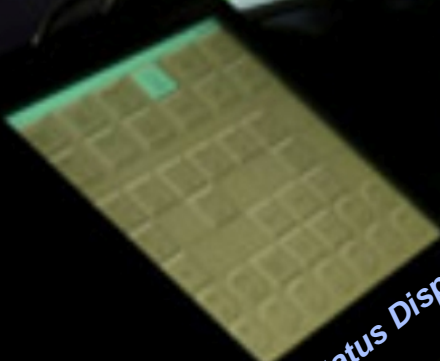
Traffic Display



Surface Display



Airport Status Display



Flight Data Manager (FDM)



Key Players

| | |
|-------------------------|--------------------------|
| ATO-T SE (Lead) | MIT - Lincoln Lab |
| ATO-P Tech. Dev. | Metron Aviation |
| ATO-E (ERAM) | MITRE |
| ATO-R (TFM) | Mosaic |
| | STI |
| | Veracity |



Major Milestones/Goals

Roadmap Capabilities

| Segment 1 2010 | Segment 2 2012 | Segment 3 2014 | Segment 4 2017 |
|--|---|---|--|
| SWIM-compliant TFDM Data Infrastructure ^{1,3} | Multiple Prefiled Dep Route Options ^{2,3} | Non-standard Taxi Routing | Off-nominal Mode Mgt ² |
| Consolidated TFDM Displays | Collaborative Departure Sequencing ¹ | Dep Runway Assignment Tool ^{1,2} | Airport Transition Planning ² |
| FDM Electronic Flight Strips ^{1,2} | Improved Dep Sequencing | RWSL/FAROS integration | Surface Reconfig Support |
| Airport planning display ² | Wake Turbulence Mitigation (Dep) ² | Taxi Right-of-Way Advisories | Complete Queue Management ¹ |
| DFM integrated into A/DMT ³ | Airport config/procedures selection tool ¹ | On-board Taxi Conformance ¹ | Conflict-free Taxi Plan ¹ |
| Dep Route Assurance ³ | Adaptation/Validation Tool | | 4DT's on surface ¹ |
| Virtual Takeoff Queue ¹ | Airport Performance Analysis Tool ^{2,3} | | Full Flight Level Clearance |
| Pre-Pushback Situation Advisories | Taxi route via datacomm ¹ | | Terminal A/D Flow Planning |
| Taxi Start Time Advisories ^{1,2} | | | Arrival Rwy Assignment ¹ |
| Dep Queue Mgt ¹ | | | |
| Coded Taxi Routing | | | |
| Taxi Conformance Monitoring ¹ | | | |
| Surface Congestion Mgt ^{1,3} | | | |

COLOR KEY

- Infrastructure/Support
- TBO Evolution
- Flow and Sequence Planning



Accomplishments To Date

- **CRDA phase**



Future Plans

See “Roadmap Capabilities” Slide

